

VOC and NOx Regulations

Year	Regulation	Cost-effectiveness average	Cost-effectiveness	Tons/Day
1988	Motor Vehicle Recall	\$ 0.06		3
1989	Antiperspirants and deodorants	\$ 0.85		4
	OBD II	\$ 0.79		118
	Exhaust emission	\$ 1.20		70
1990	Exhaust emission from light-, medium and light heavy duty engines	\$ 0.41		4.4
	Consumer products	\$ 1.00		3
	Evaporative emission at 105	\$ 0.17		114
	Evaporative emission at 75	\$ 0.51		35
	Phase I reformulated gasoline	\$ 2.00		80
	Low-emission vehicles and clean fuels	\$ 2.51		185
	1994 standards four 4-stroke engines	\$ 0.21		29
	1994 standards for 2 stroke engines less than 50 cc	\$ 0.98		29
	1999 standards for 4-stroke engines	\$ 5.52		29
	1999 standards for 2-stroke engines	\$ 0.46		29
	Smoke emissions from heavy-duty diesel engines	\$ 0.44		22
	Consumer products	\$ 1.70		45
1991	Reformulated gasoline (phase II)	\$ 4.00		220
	OBD II	\$ 1.11		
1992	Phase II consumer products	\$ 0.51		8
	Engines converted to non-gasoline fuels	\$ 1.32		30 lbs./ca
	Exhaust emissions	\$ 1.20		6
1994	Small refiner volume provisions	N/A		-3
	Evaporative emissions for heavy-duty diesel engines and vehicles	\$ 0.17		4
	Off-highway recreation vehicles	\$ 0.19		30
	Golf carts	\$ 0.34		9
	Vehicles with engines less than 25 horsepower	\$ 0.23		1
1995	Accelerated introduction of medium-duty ultra-low emission vehicles	\$ 1.50		4
	On-Board refueling vapor recovery	\$ 0.40		
	Aerosol coating (paint) products	\$ 3.03		3 to 18
1996	Low-emission vehicle - TLEV	\$ 0.91		
	Low-emission vehicle - LEV	\$ 1.10		
	Low-emission vehicle - ULEV	\$ 1.15		
1997	Hair spray	\$ 2.50		-14
	Consumer products	\$3.25	\$0-6.3	15.3
	New certification tests to control emissions from aggressive driving & A/C usage	\$0.52	\$0.44 -0.60	133
	Heavy-duty vehicle inspection	\$1.09	\$1.05 - 1.12	22 - 24
1998	Small off-road engine	\$ 4.87	\$0.11 - \$9.63	23.8
	Heavy-duty vehicle	\$ 0.20	\$ 0.20	98
	Off-road large spark-ignition engines	\$ 0.24	\$0.01 - \$3.79	60
	LEV II and CAP 2000	\$ 1.00	\$0.5 - \$1.39	57
	Aerosol coating, antiperspirants, deodorants, & consumer products	\$ 1.57	\$1.00 - \$3.00	5.4
	Marine engine	\$ 1.95	\$0.32 - \$3.57	110
	On-road motorcycles	\$ 4.30	\$3.00 - \$5.60	1.3

Cost-effectiveness of Reducing VOC & NOx Emissions

